KY Valid Course List

Kentucky Uniform Academic Course Codes

704 KAR 3:540 states the following:

Section 1. (1) Local districts and schools shall use uniform academic course codes, listed and described in the Academic Course Code List, to classify all courses offered in each school when reporting to the Kentucky Department of Education.
(2) Reporting to the Kentucky Department of Education shall include the listing and linking of uniform academic courses if the listing of academic courses is required.

Section 2. The linking of local district and school codes to the uniform academic course codes shall be performed by district and school staff using the student information system.
Section 3. The Kentucky Department of Education shall annually audit the use of uniform academic course codes by districts and schools.

Section 4. Incorporation by Reference. (1) "Academic Course Code List", April 2010, is incorporated by reference. (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Office of Teaching and Learning, 18th Floor, Capital Plaza Tower, 500 Mero Street, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. through 4:30 p.m. (36 Ky.R. 2260; Am. 37 Ky.R. 60; eff. 7-12-2010.)

The Kentucky Uniform Academic Course Code List contains a listing of course descriptions and parameters along with certifications that fit the parameters for a given course. Please note that the table of contents and the bookmarks in each PDF document are clickable for ease of navigation. The content listed for a course cannot be changed; however, the grade range and population information listed for each course are not absolute and can vary slightly depending on the needs of the school. District should choose the course that most closely represents the students in a given course. ***The description and content of a course are the determining factors in what should be selected.***

Contact Information:

- Districts may contact Kiley Whitaker at (502) 564- 4286 or Caryn Davidson at (502) 564-2106, or email at **kiley.whitaker@education.ky.gov** or **caryn.davidson@education.ky.gov** with questions pertaining to course content.
- Districts may contact Kiley Whitaker at (502) 564- 4286 or **kiley.whitaker@education.ky.gov** with questions pertaining to technical issues.
- Districts may contact the EPSB Division of Certification at (502) 564-4606 or **dcert@ky.gov** with question pertaining to certification.
- Districts may contact Megan Cummins at (502) 696-7397 or **mcummins@kheaa.com** with questions pertaining to KEES eligibility.

Detailed information about course code considerations for specific programs and areas can be found on the Kentucky Uniform Academic Course Codes website at http://education.ky.gov/curriculum/modcurrframe/Pages/Kentucky-Uniform-Academic-Course-Codes.aspx

HOW TO USE THIS DOCUMENT

This document contains a listing of course descriptions and parameters along with certifications that fit the parameters for a given course. The grade range and population information listed for each course are not absolute. Please choose the course that most closely represents the students in a given course.

EXAMPLE

John Q Middle School had 5th, 6th, and 7th grade students taking a Creative Art course. This course would be linked to course number **500711: Creative Art – Comprehensive**, which shows with a recommended grade range of 6th – 12th.

The courses listed in this document are not meant to replace the course titles and course numbers already in use at the school level. Schools will link their courses on the Infinite Campus "Course Master" tab OR in the "Course" tab to courses listed in this document.

Schools may have created courses that are very unique in order to meet students' needs. If a course does not meet the definition or content of one contained in this document, please use course number **909999: School Defined Course**, and code the correct content through the LEAD report.

CERTIFICATIONS

It is important to note that the certificates listed are the ones that fit ***ALL*** of the parameters for a specific course – there may be other certificates that can teach it with slightly more restrictive parameters.

It is very important to note that not all of the certificates listed under a specific course will meet the Highly Qualified Teacher standards as defined by The No Child Left Behind Act of 2001. Please refer to the Highly Qualified guidance documents located on the Education Professional Standards Board (EPSB) website at http://www.epsb.ky.gov/nclb.asp.

In addition to Highly Qualified considerations, please take note of the following information from ***The Kentucky Core Academic Standards*** with regard to middle school courses that are offered for high school credit.

High School Credit Earned in Middle School

It is expected that most students will earn these credits during their high school years. However, local school districts may offer these courses to middle level students if the following criteria are met:

- the content and the rigor of the course is the same as established in the *Kentucky Core Academic Standards*
- the students demonstrate mastery of the middle level content as specified in the *Kentucky Core Academic Standards*
- the district has criteria in place to make reasonable determination that the middle level student is capable of success in the high school course
- **the middle level course is taught by teachers with either secondary or middle level certification with appropriate content specialization**

Although middle level courses list the Provisional and Standard Elementary Certificates, Grades 1-8 as allowable under the parameters of these courses, they will not meet the above requirements for courses that are offered for high school credit.

This document is a guide; therefore the EPSB disclaims any warranties as to the validity of the information in this document. Users of this document are responsible for verifying information received through cross-referencing the official record in the EPSB's Division of Certification. The EPSB shall not be liable to the recipient, or to any third party using this document or information obtained therefrom, for any damages whatsoever arising out of the use of this document.

Table of Contents

Mathematics
(270000)

Mathematics - Middle
(270200)

270201 - Sixth Grade Mathematics

Grade Level: 6 - 6
Credits:
Description: This course should focus primarily on the four critical areas for grade 6: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Middle School Mathematics (general)
Population: General

270202 - Seventh Grade Mathematics

Grade Level: 7 - 7
Credits:
Description: This course should primarily focus on the four critical areas for grade 7: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Middle School Mathematics (general)
Population: General

270203 - Eighth Grade Mathematics

Grade Level: 8 - 8
Credits:
Description: This course should primarily focus on the three critical areas for grade 8: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Middle School Mathematics (general)
Population: General

270204 - Accelerated Sixth Grade Mathematics

Grade Level: 6 - 6
Credits:
Description: This course code should be used for the acceleration of middle school math curriculum for sixth graders and the course should be designed to prepare students to take high school mathematics in the middle school. This course should contain a compacted curriculum (content is compressed, not skipped) that allows students to accelerate and should focus primarily on the critical areas listed under Grades 6 - 8 mathematics in this document. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Middle School Mathematics (general)
Population: General

270205 - Accelerated Seventh Grade Mathematics

Grade Level: 7 - 7
Credits:
Description: This course code should be used for the acceleration of middle school math curriculum for seventh graders and the course should be designed to prepare students to take high school mathematics in the middle school. This course should contain a compacted curriculum (content is compressed, not skipped) that allows students to accelerate and should focus primarily on the critical areas listed under Grades 7 - 8 mathematics in this document. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Middle School Mathematics (general)
Population: General

270206 - Accelerated Eighth Grade Mathematics

Grade Level: 8 - 8
Credits:
Description: This course code should be used for the acceleration of middle school math curriculum and the course should be designed to prepare students to accelerate in high school mathematics courses. This course should contain a compacted curriculum (content is compressed, not skipped) that allows students to accelerate and should focus primarily critical areas listed under Grade 8 mathematics in this document and some HS Algebra 1 content as listed in this document; however, credit in this course is not recognized as a high school graduation credit. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Middle School Mathematics (general)
Population: General

270235 - Algebra 2 (Grades 6-8 - HS Credit)

Grade Level: 6 - 8
Credits: 1
Description: NOTE: THIS IS NOT A VALID CODE AND DOES NOT APPEAR IN INFINITE CAMPUS. All Algebra II courses meeting the description below should use course code 270311. This course is designed so the students develop the relevant skills and concepts from the Kentucky Core Academic Standards beyond Algebra 1 and then builds on those skills and concepts in a rigorous manner. For the class of 2012 and the classes that follow, Algebra 2 is a graduation requirement. NOTE: This course may be titled Applied Algebra 2, Technical Algebra 2 or Interdisciplinary Algebra 2. The content of the course is Algebra II. Students taking this course (when linked to 270311) are required to take the QualityCore End of Course (EOC) exam for Algebra 2. http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_MATHEMATICS.pdf

270242 - Algebra 1 (Grades 6-8 - non-HS credit)

Grade Level: 6 - 8
Credits:
Description: This course should contain a compacted curriculum (content compressed, not skipped) that allows students to accelerate and complete the required math content of the middle grades and high school (HS) Algebra 1. This course should focus primarily on the critical areas of Grade 8 AND HS Algebra 1 content: represent relationships mathematically, develop fluency in writing, interpreting equations, translating between various forms of linear equations and inequalities using them to solve problems including system of equations, master the solution of linear equations, apply related solution techniques and the laws of exponents to solve simple exponential equations, understand functions definition and notation, contrast linear and exponential functions using the familiar tools of tables, graphs and symbols, use linear models and regression techniques with descriptive statistics, perform arithmetic operations on polynomials, factor quadratic and cubic expressions (seeing structure), solve quadratic equations to lay foundational work for quadratic functions and explore non-linear relationships. Students receiving credit for this course must take HS Algebra 1 to meet minimum high school graduation requirements. If this course has the same content, rigor and expectations of the HS Algebra 1 then this course meets the Kentucky minimum high school graduation requirement of Algebra 1 per KRS 158.622 and course code 270304 should be used. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra I
Population: General

270243 - Geometry (Grades 6-8 - non-HS credit)

Grade Level: 6 - 8
Credits:
Description: This course allows students to accelerate and complete high school (HS) Geometry in middle school. Students taking this course should have completed the middle school math compacted curriculum (content is compressed, not skipped) and HS Algebra I. This course should focus primarily HS Geometry content: prove theorems and solve problems about triangles, quadrilaterals, and other polygons, apply reasoning to complete geometric constructions and explanations, establish triangle congruence criteria based on analyses of rigid motions and formal constructions, use similarity to solve problems and apply similarity in right triangles to understand right triangle trigonometry with particular attention to special right triangles and the Pythagorean theorem, develop the Law of Sines and Cosines from understanding relationships in right triangles, apply knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line, connect algebraic concepts to geometric concepts through the rectangular coordinate system, such as deriving the equation of a circle given the center and radius length using the distance formula or Pythagorean Theorem and prove basic theorems about circles, inscribed angle theorem and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. Students receiving credit for this course must take HS Geometry to meet minimum high school graduation requirements. If this course has the same content, rigor and expectations of the HS

Geometry then this course meets the Kentucky minimum high school graduation requirement of Geometry per KRS 158.622 and course code 270233 should be used. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Geometry
Population: General

270245 - Algebra 2 (Grades 6-8 - non-HS Credit)

Grade Level: 6 - 8
Credits: 0
Description: This course should focus primarily on HS Algebra 2 content: draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, connect multiplication of polynomials with polynomials of multi-digit integers and division of polynomials with long division of integers, identify zeros of polynomials and make connections between zeros of polynomials and solutions of polynomial equations, building on previous work with trigonometry ratios and circles, use coordinate geometry to extend trigonometry to model periodic phenomena, work with a variety of function families exploring the effects of transformations in order to generalize the effect regardless of the underlying function, analyze functions using different representations, build, interpret and compare functions including square root, cube root, piece-wise and logarithmic functions, identify appropriate types of functions to model a situation, adjust parameters to improve the model, compare models by analyzing appropriateness of fit and make judgments about the domain over which a model is a good fit. Students receiving credit for this course must take HS Algebra 2 to meet minimum high school graduation requirements however, if this course has the same content, rigor and expectations of HS Algebra 2 then this course meets the Kentucky minimum high school graduation requirement of Algebra 2 per KRS 158.622 and course code 270311 should be used. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra II
Population: General

270290 - Mathematics Intervention (Grades 6-8)

Grade Level: 6 - 8
Credits:
Description: This course is designed for students who need additional assistance beyond the grade level math course. At grade 8, this course should be designed to ensure that students are appropriately ready for high school level mathematics. This course uses intervention strategies to build and support the student's mathematical understanding. This course should be taken in conjunction with the grade level math course and does not replace the grade level course. Intervention should be documented using the intervention tab in the student information system. This course should be named locally to reflect the content, e.g., 6th Grade Math Intervention, 7th Grade Math Intervention and 8th Grade Intervention This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: General Mathematics
Population: General

Mathematics - Algebra
(270300)

270301 - HS Pre-Algebra

Grade Level: 9 - 10
Credits: 1E
Description: This course should focus on skills necessary to be successful in a HS Algebra 1 course and is not necessarily limited to the following: (1) completing understanding of division of fractions and extending the notion of number to the system of rational numbers and developing understanding of operations with rational numbers and writing, interpreting, and using expressions and equations; (2) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (3) developing understanding of and applying proportional relationships and solving problems involving scale drawings; (4) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (5) grasping the concept of a function and using functions to describe quantitative relationships; (6) understanding and applying the Pythagorean Theorem; (7) working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume and (8) developing understanding of statistical thinking and drawing inferences about populations based on samples. This course cannot serve as Algebra 1, Geometry or Algebra 2 credit for high school graduation.
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Pre-Algebra
Population: General

270302 - Algebra 1 (Part 1) / Algebra 1 (Part A) / Algebra 0.5

Grade Level: 9 - 10
Credits: 1/1E
Description: This course is the first course of the set of Algebra 1 courses and is designed for students who might need two years (or two semesters in block schedules) to attain all the concepts addressed in a high school Algebra 1 course. Students must pass both courses (270302 and 270303) to earn the Algebra 1 credit for high school graduation. See HS Algebra 1 course code 270304 for a description of HS Algebra 1. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra I
Population: General

270303 - Algebra 1 (Part 2) / Algebra 1 (Part B)

Grade Level: 9 - 10
Credits: 1/1E
Description: This course is the second course of the set of algebra 1 courses and is designed for students who might need two years (or two semesters in block schedules) to attain all the concepts addressed in a high school Algebra 1 course. Students must pass both courses (270302 and 270303) to earn the Algebra 1 credit for high school graduation. See HS Algebra 1 course code 270304 in this document for a description of HS Algebra 1. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra I
Population: General

270304 - Algebra 1

Grade Level: 9 - 11
Credits: 1
Description: This course should focus primarily on HS Algebra 1 content: represent relationships mathematically, develop fluency in writing, interpreting equations, translating between various forms of linear equations and inequalities using them to solve problems including system of equations, master the solution of linear equations, apply related solution techniques and the laws of exponents to solve simple exponential equations, understand functions definition and notation, contrast linear and exponential functions using the familiar tools of tables, graphs and symbols, use linear models and regression techniques with descriptive statistics, perform arithmetic operations on polynomials, factor quadratic and cubic expressions (seeing structure), solve quadratic equations to lay foundational work for quadratic functions and explore non-linear relationships. This course should be designed to meet the high school graduation credit for Algebra 1 and to build a solid foundation for students to be successful in HS Geometry and Algebra 2. NOTE: Since the content of Applied Algebra 1, Technical Algebra 1, Honors Algebra 1, Accelerated Algebra 1, MST Algebra 1 and interdisciplinary Algebra 1 courses is Algebra 1, the course code 270304 - HS Algebra 1 should be used; however, this course may be titled locally Applied Algebra 1, Technical Algebra 1, Honors Algebra 1, Accelerated Algebra 1, MST Algebra 1 or named as an interdisciplinary Algebra 1. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra I
Population: General

270308 - Algebra 1 Intervention

Grade Level: 9 - 11
Credits: 0.5E or 1E
Description: This course is designed for students who need additional time to learn HS Algebra 1 topics and should run concurrently with HS Algebra 1. This course should use hands-on activities and explorations with graphing calculators to support the study of algebraic concepts addressed in a HS Algebra 1 course and should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet the Algebra 1 graduation requirement.
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra I
Population: General

270309 - Mathematics Intervention

Grade Level: 9 - 12
Credits: 0.5E or 1E
Description: This course is designed for students who need additional time and help with mathematical strategies. This course uses hands-on activities and explorations with graphing calculators to support the study of the concepts addressed in the standards for high school mathematics. This course should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet any of the 3 required mathematics credits for high school graduation: Algebra 1, Geometry or Algebra 2. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: General Mathematics
Population: General

270310 - Algebra 1.5 / Introduction to Algebra 2

Grade Level: 9 - 11
Credits: 1E
Description: This course is designed for those students who have completed the HS Algebra 1 graduation credit, but are not deemed sufficiently prepared to attempt a rigorous, Algebra 2 course and should be designed to provide individualized support to enhance a student's preparedness for Algebra 2. The intent of this course is to go beyond Algebra 1 and prepare students for the Algebra 2 course. This course does not meet any of the 3 required mathematics credits for high school graduation: Algebra 1, Geometry or Algebra 2. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra II
Population: General

270311 - Algebra 2

Grade Level: 8 - 12
Credits: 1
Description: This course should focus primarily on HS Algebra 2 content: draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, connect multiplication of polynomials with polynomials of multi-digit integers and division of polynomials with long division of integers, identify zeros of polynomials and make connections between zeros of polynomials and solutions of polynomial equations, building on previous work with trigonometry ratios and circles, use coordinate geometry to extend trigonometry to model periodic phenomena, work with a variety of function families exploring the effects of transformations in order to generalize the effect regardless of the underlying function, analyze functions using different representations, build, interpret and compare functions including square root, cube root, piece-wise and logarithmic functions, identify appropriate types of functions to model a situation, adjust parameters to improve the model, compare models by analyzing appropriateness of fit and make judgments about the domain over which a model is a good fit. NOTE: The content of the course is HS Algebra 2 and may be titled locally as Applied Algebra 2, Technical Algebra 2 or named as an interdisciplinary Algebra 2. Students taking this course should take the state end of course assessment (EOC) exam for Algebra 2.
http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_MATHEMATICS.pdf This code is to be used for both middle and high school students taking Algebra 2 for graduation credit. It is also to be used in lieu of the Integrated/Applied Math 3 or 4 depending on which course completes the required high school math curriculum (see course code 270704) . (Please consult the EPSB website regarding teaching permissions for grades 6-8. Credentials listed for this course code (270311) are for grades 8-12 mathematics teachers only.) This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra II
Population: General

270318 - Algebra 2 Intervention

Grade Level: 9 - 12
Credits: 0.5E or 1E
Description: This course is designed for students who need additional time with Algebra 2 topics and runs concurrently with Algebra 2. This course should use hands-on activities and explorations with graphing calculators to support the study of algebraic concepts addressed in a HS Algebra 2 course and should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet the Algebra 2 graduation requirement. This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Algebra II
Population: General

270320 - College Algebra

Grade Level: 11 - 12
Credits: 1E
Description: This course is designed to be equivalent to a credit-bearing college algebra course for students intending to enter into post-secondary education and pursue a degree that requires an algebra pathway. The content goes beyond a traditional Algebra 2 course. This course code can be used for dual credit college algebra. Kentucky's public college readiness scores for college algebra are: ACT - 22 or higher, SAT 510 or higher, KYOTE College Algebra 14 or higher and COMPASS Algebra Domain 50 or higher. http://cpe.ky.gov/nr/rdonlyres/78b3510a-cecd-4157-8f20-3e3499707daa/0/collegereadinessindicators.pdf
Content: Advanced Topics in Mathematics
Population: General

270321 - Algebra 3/Preparation for College Algebra

Grade Level: 11 - 12
Credits: 1E
Description: The content should go beyond traditional Algebra 2 content. This course is designed for students who are intending to enter into post-secondary education and perhaps pursue a degree that requires an algebra pathway but are in need of additional mathematics preparation in order to be successful in a credit-bearing college algebra course (see course description for College Algebra 270320).
Content: Advanced Topics in Mathematics
Population: General

Mathematics - Geometry
(270400)

270401 - Geometry

Grade Level: 9 - 12
Credits: 1
Description: This course should focus primarily on HS Geometry content: prove theorems and solve problems about triangles, quadrilaterals, and other polygons, apply reasoning to complete geometric constructions and explanations, establish triangle congruence criteria based on analyses of rigid motions and formal constructions, use similarity to solve problems and apply similarity in right triangles to understand right triangle trigonometry with particular attention to special right triangles and the Pythagorean theorem, develop the Law of Sines and Cosines from understanding relationships in right triangles, apply knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line, connect algebraic concepts to geometric concepts through the rectangular coordinate system, such as deriving the equation of a circle given the center and radius length using the distance formula or Pythagorean Theorem and prove basic theorems about circles, inscribed angle theorem and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. Since the content of Applied Geometry, Technical Geometry, Honors Geometry, Accelerated Geometry, MST Geometry and other courses named as an interdisciplinary geometry is HS geometry, the course code 270401 - HS Geometry should be used; however, this course may be titled locally as Applied Geometry, Technical Geometry, Honors Geometry, Accelerated Geometry, MST Geometry or named as an interdisciplinary Geometry. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Geometry
Population: General

270406 - Geometry Intervention

Grade Level: 9 - 12
Credits: 0.5E or 1E
Description: This course is designed for students who need additional time with HS Geometry topics and runs concurrently with HS Geometry. This course should use hands-on activities and explorations with graphing calculators to support the study of geometric concepts addressed in a HS Geometry course and should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet the HS Geometry graduation requirement.
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Geometry
Population: General

Mathematics - Calculus
(270500)

270501 - Pre-Calculus

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed for students to attain the concepts necessary to be successful in a Calculus course, an AP Calculus course or a College Calculus course. Since the content of Honors Pre-Calculus, Accelerated Pre-Calculus and MST Pre-Calculus is Pre-Calculus, the course code 270501 Pre-Calculus should be used; however, this course may be titled locally as Honors Pre-Calculus, Accelerated Pre-Calculus or MST Pre-Calculus. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Pre-Calculus
Population: General

270505 - IB Pre-Calculus

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed to address the curriculum for the IB Pre-Calculus course as described in the International Baccalaureate (IB) guidelines. Only schools with an IB program should use this code (270505) for Pre-Calculus. All others should use course code 270501 Pre-Calculus.
Content: Pre-Calculus
Population: General

270506 - College Calculus III (For Dual Credit Only)

Grade Level: 11 - 12
Credits: 1E
Description: This college level mathematics course develops main ideas of differentiation and integration of functions of several variables and introduces vector calculus. This course should focus primarily on: vectors, analytic geometry of 3-dimensional space, functions of several variables, partial derivatives, directional derivatives, integrals of functions of two and three variables, vector fields, line integrals, Green’s theorem, and the divergence theorem. Prerequisite for this course: College Board AP Calculus BC score of 4 or 5 on AP exam, or Calculus II dual credit course with a 'C' or better.
Content: Calculus
Population: General

270511 - Calculus

Grade Level: 11 - 12
Credits: 1E
Description: This course is designed to address all the concepts normally covered in differential and integral calculus. Students taking this course are not expected to take the College Board Advanced Placement exam for AP Calculus AB or BC.
Content: Calculus
Population: General

270512 - IB Calculus

Grade Level: 11 - 12
Credits: 1E
Description: This course is designed to address the curriculum for the IB Calculus course as described in the International Baccalaureate guidelines. Only schools with an IB program should use this code (270512) for Calculus. All other schools should use course code 270511 Calculus or 270513 AP Calculus AB.
Content: Calculus
Population: General

270513 - AP Calculus AB

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed to address all the concepts delineated in the College Board guidelines for the AP Calculus AB examination. Students taking this course may be required to take the AP Calculus AB exam. According to the College Board description of AP Calculus, "(These courses) are primarily concerned with developing the students' understanding of the concepts of calculus and providing experience with its methods and applications. The courses emphasize a multirepresentational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. The connections among these representations also are important" and "Technology should be used regularly by students and teachers to reinforce the relationships among the multiple representations of functions, to confirm written work, to implement experimentation, and to assist in interpreting results." http://media.collegeboard.com/digitalServices/pdf/ap/ap-calculus-course-description.pdf
Content: AP Calculus
Population: General

270514 - AP Calculus BC

Grade Level: 11 - 12
Credits: 1E
Description: This course is designed to address all the concepts delineated in the College Board guidelines for the BC Calculus examination.
Content: AP Calculus
Population: General

270515 - College Calculus II (For Dual Credit Only)

Grade Level: 11 - 12
Credits: 1E
Description: This college level mathematics course includes applications of integration, advanced integration techniques, sequences and infinite series, and parametric and polar equations. This course further develops techniques and applications of integration and is an introduction to sequences and series. Topics include integration strategies, computing areas and volumes, arc length, parametric curves, polar coordinates, sequences and series, tests for convergence of series, power series, and Taylor series. This course is not associated with the College Board AP Calculus AB or BC examinations. Prerequisite for this course: College Board AP Calculus AB score of 4 or 5 on AP exam or Calculus I dual credit course with a 'C' or better.
Content: Calculus
Population: General

Mathematics - Other Mathematical Topics (270600)

270601 - Data and Measurement

Grade Level: 9 - 12
Credits: 1E
Description: This course should focus primarily on the conceptual categories: Statistics & Probability and Modeling and should include summarizing, representing and interpreting data and making inferences, justifying conclusions representing using linear, quadratic and exponential relationships and modeling descriptively and analytically. Technology should be an integral part of this course to generate plots, regressions functions and correlation coefficients and to simulate possible outcomes relatively quickly based on a given situation. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Extended Topics In Algebra (Data and Measurement)
Population: General

270602 - Probability and Statistics

Grade Level: 9 - 12
Credits: 1E
Description: This course should focus primarily on the conceptual categories: Statistics & Probability and Modeling to address such concepts as theoretical and experimental probability, independent and conditional probability using them to interpret data, rules of probability to compute probabilities of compound events in a uniform probability model, calculations of expected values, analysis of decisions and strategies using probability concepts, binomial distributions, normal distributions, displaying and describing distributions of data, collecting data, measures of central tendency and spread and methods of inferential statistics. Technology should be an integral part of this course to generate plots, regressions functions and correlation coefficients and to simulate possible outcomes relatively quickly based on a given situation. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Probability/Statistics
Population: General

270604 - AP Statistics

Grade Level: 11 - 12
Credits: 1E
Description: This course is designed to address all the concepts delineated in the College Board guidelines for the AP Statistics examination. Students taking this course may be required to take the AP Statistics exam. According to College Board description of AP Statistics, "The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes: (1) Exploring Data: Describing patterns and departures from patterns, (2) Sampling and Experimentation: Planning and conducting a study, (3) Anticipating Patterns: Exploring random phenomena using probability and simulation and (4) Statistical Inference: Estimating population parameters and testing hypotheses." http://media.collegeboard.com/digitalServices/pdf/ap/ap-statistics-course-description.pdf
Content: AP Statistics
Population: General

270611 - Discrete Mathematics

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed for students who have completed high school mathematics courses through Algebra 2 and are interested in a future in business or computer applications, and should address such topics as set theory, proofs by mathematical induction, graph theory, permutations and combinations, and other topics as deemed appropriate. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Finite/Discrete Mathematics
Population: General

270612 - Finite Mathematics

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed for students who have completed high school mathematics courses through Algebra 2, and should include modeling situations through linear systems using matrices, linear inequalities systems (programming), data analysis, probability and finance applications. See conceptual category Modeling for the basic mathematical modeling cycle and examples of modeling situations. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Finite/Discrete Mathematics
Population: General

270621 - Advanced Topics in Mathematics

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed for students who have completed Algebra 1, Geometry and Algebra 2 content and should allow students to pursue topics in mathematics beyond content required for high school students. This course may cover topics from combined higher level courses or topics which are not found in other higher level courses but are of interest to students for college and career readiness. This course should be locally named according to the major content of the course.
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Advanced Topics in Mathematics
Population: General

270631 - Trigonometry

Grade Level: 10 - 12
Credits: 1E
Description: This course is designed for students who have completed Algebra 2 and want to proceed further into aspects of Trigonometry. This course should focus primarily on the conceptual categories: Algebra, Functions and Geometry. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Trigonometry
Population: General

270641 - Mathematics for Business and Industry

Grade Level: 9 - 12
Credits: 1E
Description: This course is designed as an interdisciplinary course that would be offered through the business strand of the career/technical education program. This course employs high school mathematics content with business emphasis; which enables the student to explore mathematical content for personal, business and industrial use. Math concepts and skills are applied through study and problem-solving activities in real-world situations in the following areas: banking, measurement, borrowing and investing, consumer purchases, and financial management. Leadership development will be provided through FBLA or DECA. See the most current Business Education Program of Studies document for course specific content. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Math for Business and Industry for the Math Elective Requirement
Population: General

270643 - Technical Mathematics

Grade Level: 10 - 12
Credits: 0.5E or 1E
Description: Some mathematical concepts from algebra, geometry, and trigonometry and applications relevant to these topics are studied. Topics to be covered include unit conversions, variation, measurement of geometric figures, vectors, and solving right and oblique triangles using trigonometry. Emphasis is on applications in the various technologies.
Content: General Mathematics
Population: General

270651 - Math - Independent Study

Grade Level: 9 - 12
Credits: 0.5E or 1E
Description: This course is designed to provide an opportunity for the student to make an in-depth study on a topic related to mathematics. The student has the responsibility and freedom to research, analyze, evaluate, and present conclusions in written and/or oral form. Students would apply and be accepted for independent study in a manner determined by the local district. Local course name should reflect the topic being studied.
Content: General Mathematics
Population: General

270661 - Mathematics Concepts

Grade Level: 10 - 12
Credits: 0.5E or 1E
Description: This course is designed to be taken after completion of Algebra 1, Geometry and Algebra 2. Topics include probability and statistics, extension of algebra and geometry concepts, and discrete mathematics. This course could serve as a mathematics elective for high school graduation, but not as one of the three required credits for high school graduation: Algebra 1, Geometry or Algebra 2. http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Mathematics
Population: General

270690 - Multi-Subject/Multi-Grade Mathematics

Grade Level: 6 - 12
Credits:
Description: This course is to be used for resource special education and alternative setting classrooms where students are receiving instruction in multiple content areas within the Math core. The individualized content for each specific course taught under this umbrella code must meet the description listed in the State Uniform Course Code document for that course. This code should not be utilized when instruction is being provided related to one specific course. Students taking courses where an End Of Course (EOC) exam is required must be enrolled in a course with the appropriate EOC related state course code. This code cannot be used for EOC exam required content areas. A highly qualified teacher is required to teach this course. Certification requirements are dependent upon the population being served. This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).
Content: Mathematics
Population: None

Mathematics - Integrated Mathematics (270700)

270701 - Integrated/Applied Mathematics 1

Grade Level: 9 - 10
Credits: 1
Description: This course is the first year of Integrated Mathematics pathway. The integrated approach to high school mathematics is typically seen internationally and consists of a sequence of three to four courses depending on school's curriculum; each course includes number, algebra, geometry, probability and statistics and is no less rigorous than a traditional pathway: Algebra 1, Geometry and Algebra 2. Typically Integrated I has more geometric concepts than a traditional Algebra I course. For possible models on how to organize HS standards into courses, see the Common Core State Standards, Appendix A: Integrated Model Course Pathways in Mathematics at
http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Integrated Mathematics 1
Population: General

270702 - Integrated/Applied Mathematics 2

Grade Level: 10 - 11
Credits: 1
Description: This course is the second year of Integrated Mathematics. The integrated approach to high school mathematics is typically seen internationally and consists of a sequence of three to four courses depending on school's curriculum; each course includes number, algebra, geometry, probability and statistics and is no less rigorous than a traditional pathway: Algebra 1, Geometry and Algebra 2. Typically Integrated II has a blend of geometric and algebraic concepts along with probability. For possible models on how to organize HS standards into courses, see the Common Core State Standards, Appendix A: Integrated Model Course Pathways in Mathematics at
http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Integrated Mathematics 2
Population: General

270703 - Integrated/Applied Mathematics 3

Grade Level: 10 - 12
Credits: 0
Description: This is no longer an active course code. Students enrolled in the third course in the sequence of integrated curricula should be enrolled a course linked to the Algebra II state course code of 270311.

270704 - Integrated/Applied Mathematics 3 or 4

Grade Level: 11 - 12
Credits: 1E
Description: This course is for the third or fourth year of Integrated Mathematics depending on the school's integrated mathematics curriculum. Typically, the third course completes the Algebra 2 content for high school; so, if Integrated Mathematics 3 completes the school's integrated mathematics curriculum then the course code 270311 Algebra 2 should be used for Integrated Mathematics 3 and this code (270704) should be used for Integrated Mathematics 4. However, if Integrated 4 completes the school's integrated mathematics curriculum then this code (270704) should be used for Integrated 3 and course code 270311 Algebra 2 should be used for Integrated Mathematics 4. The courses should be named appropriately at the local level. For possible models on how to organize HS standards into courses, please see the Common Core State Standards, Appendix A: Integrated Model Course Pathways in Mathematics at http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf
http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf
Content: Integrated Mathematics 4
Population: General

270710 - Math Ready: Ready for College-Level Math

Grade Level: 11 - 12
Credits: 0.5E or 1E
Description: This course is developed by the Southern Regional Educational Board (SREB). According to the SREB Math Ready course description, this course "emphasizes understanding of math concepts rather than just memorizing procedures. Math Ready students learn the context behind the procedure: why to use a certain formula or method to solve a problem, for example. This equips them with higher-order thinking to apply math skills, functions and concepts in different situations."
http://www.sreb.org/page/1684/math_ready.html
Content: Mathematics
Population: General

270718 - College and Career Readiness Mathematics

Grade Level: 11 - 12
Credits: 0.5E or 1E
Description: This course is designed for students who need additional instruction to prepare for college mathematics or who may not have attained Kentucky's benchmark ACT score in mathematics and should be designed to provide individualized support to enhance a student's college or career readiness. This course may serve as a mathematics elective for high school graduation, but not as one of the 3 required math courses for high school graduation: Algebra I, Geometry, or Algebra II. This course primarily addresses mathematics content covered in previous courses, and may not be approved for use in the initial-eligibility NCAA certification process. Resources for this course can be found at http://education.ky.gov/educational/int/hscf/Pages/HSTransitionalIntervention.aspx.
Content: General Mathematics
Population: General

270720 - College Liberal Arts Mathematics (For Dual Credit Only)

Grade Level: 11 - 12
Credits: 1E
Description: This college level mathematics course is an introduction to the application of mathematics using real-world situations. Topics are from various branches of discrete mathematics and include the concepts of ratio and proportion, units and conversions, linear equations in two variables, inequalities, graphing and writing equation of a line, percent, interest, and logical symbolism, as well as concepts from geometry, finance, descriptive statistics and probability. This course code should be used for all dual credit math courses that are categorized as College Introductory Quantitative Reasoning courses for the liberal arts pathway. Depending upon a student's choice of college or university, this course can meet the requirements for a major that does not require a college algebra pathway.
Content: Finite/Discrete Mathematics
Population: General